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GREER, BURNS & CRAIN 300 S WACKER DR 25TH FLOOR CHICAGO, IL 60606			EXAMINER CWERN, JONATHAN	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/522,055	Applicant(s) BOUCHOUCHA, MICHEL LUC	
	Examiner Jonathan G. Cwern	Art Unit 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 8/27/07 have been fully considered but they are not persuasive.
2. In regards to applicant's arguments that one of ordinary skill in the art would not be motivated to combine Frisch and Kimchy, examiner respectfully disagrees. In Kimchy, paragraph [0116], Kimchy teaches that phase shift triangulation is a common technique employed in a variety of contexts, including radiofrequency applications.
3. In regards to applicant's arguments that neither Frisch nor Kimchy show obtaining data for an assessment of the digestive motricity and transit, examiner respectfully disagrees. Frisch describes a variety of uses for ingestible capsules in column 1, lines 10-20, one of those uses being measuring gastric residence time and intestinal passage time.
4. In regards to applicant's argument that neither Frisch nor Kimchy show determining by triangulation on the basis of three phase-shift measurements a 3D position of said transmitting element, examiner respectfully disagrees. Kimchy teaches, in paragraph [0116], that time based triangulation and phase shift triangulation are commonly used in radio frequency applications, to monitor the position of an object. As stated earlier, one of ordinary skill in the art would be motivated to combine Frisch with Kimchy, in order to accurately track the ingestible capsule. As stated by applicant, Kimchy shows monitoring the position in two or three-dimensional space in paragraph [0112].

5. Therefore, examiner uphold previous rejection dated 2/22/07 and repeated below.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-5, 9-10, 14, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frisch et al. (US 6,904,308, filed 5/20/02) in view of Kimchy et al. (US 2004/0015075, filed 6/11/01).

4. Frisch shows the claimed invention in the figures and corresponding text as: pertaining to claim 1, a method of non-invasive exploration for assessing the digestive motricity and/or transit of a human or animal subject, comprising: said subject swallowing an ingestible transmitting element which is non-digestible containing means transmitting at a given fixed frequency (source 100, column 3, line 60 through column 4

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line 5); measuring, at a given time using at least three reception means (antenna elements 10a through 10z, column 3, lines 10-22) distributed around said subject's trunk (belt is worn around the body, column 3, lines 13-16); determining by triangulation (column 4, lines 35-40) the position of said element (column 4, lines 10-34); defining, according to the position of said element, a data for the assessment of the digestive motricity and/or transit (sensors 110 provide the data, column 3, lines 65-67);

Pertaining to claim 2, the method according to claim 1, characterized in that the measurements corresponding to the phase shift are stored in memory means (data storage unit 22, column 3, lines 41-42);

Pertaining to claim 3, the method according to claim 1, characterized in that the receiving means are placed around the abdominal belt (antenna array belt 10, column 3, lines 10-22);

Pertaining to claim 4, the method according to claim 1, characterized in that a series of position measurements are made which are spread over time (beacon may send out an intermittent signal or transmit at the same time as the data signal, column 3 line 67 through column 4, line 9);

Pertaining to claim 5, the method according to claim 1, characterized in that a position reference measurement is made when the element is in the mouth of the subject, before he swallows it (the location of the signal source is in the body, this could include the mouth, column 4, lines 64-65);

Pertaining to claim 9, a non-invasive exploration system for assessing the digestive motricity and/or transit of a human or animal subject, in particular for the

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implementation of the method according to claim 1, characterized by: on the one hand: an ingestible transmitting element which cannot be digested by said subject containing means transmitting at a given fixed frequency (source 100, column 3, line 60 through column 4 line 5); and on the other hand: receiving means comprising at least three receivers (antenna elements 10a through 10z, column 3 lines 10-22) intended to be placed around the trunk of said subject (belt is worn around the body, column 3, lines 13-16), means for processing and analyzing the position of said element (processing unit 26, column 3, lines 50-53);

Pertaining to claim 10, the system according to claim 9, characterized in that is also comprises means for storing in the memory the phase-shift measurements made by the receivers at a given time (data storage unit 22, column 3, lines 41-42);

Pertaining to claim 14, the system according to claim 9, characterized in that the receivers are distributed on a belt which is able to be fixed on the trunk of the subject (antenna array belt 10, column 3, lines 10-22);

Pertaining to claim 16, the system according to claim 14, characterized in that the analysis and processing means (processing unit 26, column 3, line 51) include a card comprising means for analogue-to-digital conversion of the signals picked up (this is a commonly known method for manipulating or transforming data, column 2, lines 39-50) and memory means common to the three receivers and arranged on the belt (data storage unit 22);

Pertaining to claim 17, the system according to claim 9, characterized by means for connecting the memory means (data storage unit 22) to the processing and analysis

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means (processing unit 26) and for transferring the data relating to the phase shifts measured (Figure 2 shows clearly that the processing unit 26 is connected to the data storage unit 22).

5. Frisch fails to show with respect to claim 1, measuring the phase shift of the frequency transmitted by said transmission means relative to a reference phase, and determining by triangulation on the basis of the three phase-shift measurements the position of said element; with respect to claim 9, each receiver being able to measure at a given time the phase shift of said transmission frequency relative to a reference phase; means for processing and analyzing the three phase-shift measurements made by said receivers which are able to determine, by triangulation, the position of said element.

6. Kimchy teaches with respect to claims 1 and 9, measuring the phase shift of the frequency transmitted by said transmission means relative to a reference phase, and determining by triangulation on the basis of the three phase-shift measurements the position of said element (paragraph [0116]).

7. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have had the position location system, in the device of Frisch, operate with the phase shift triangulation method, as taught by Kimchy, with the motivation that both of the position location methods would yield similar results.

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8. Claims 12, 13, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frisch et al. (US 6,904,308, filed 5/20/02) in view of Kimchy et al. (US 2004/0015075, filed 6/11/01) and further in view of Refael (WO 01/50941, filed 1/10/01).

9. Frisch as modified by Kimchy shows the claimed invention substantially, as applied to claims 1-5, 9-10, 14, 16, and 17 in the previous rejection under 35 USC 103(a).

10. Frisch as modified by Kimchy fails to show with respect to claim 12, the system according to claim 10, characterized in that the transmitting element comprises integrated power supply means; with respect to claim 13, the system according to claim 9, characterized in that the transmitting element comprises induced power supply means; with respect to claim 15, the system according to claim 14, characterized in that the belt also comprises means for the induction of the power supply of said transmitting element.

11. Refael teaches, with respect to claim 12, the system according to claim 10, characterized in that the transmitting element comprises integrated power supply means (page 14, lines 7-9); with respect to claim 13, the system according to claim 9, characterized in that the transmitting element comprises induced power supply means (page 14, lines 7-9); with respect to claim 15, the system according to claim 14, characterized in that the belt also comprises means for the induction of the power supply of said transmitting element (the vest 21 performs the same function as the belt in Frisch, page 16, lines 11-15).

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12. It would have been obvious to one of ordinary skill in the art, at the time the invention was made to have utilized these different types of powering means in the system of Frisch, as taught by Refael, with the motivation that some source of power must be applied to the capsule in order for it to function, and these are well known means of powering a transmitting capsule within a patient's body.

13. Claims 7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frisch et al. (US 6,904,308, filed 5/20/02) in view of Kimchy et al. (US 2004/0015075, filed 6/11/01) and further in view of Hogrefe et al. (US 5,415,181 filed 12/1/93).

14. Frisch as modified by Kimchy shows the claimed invention substantially, as applied to claims 1-5, 9-10, 14, 16, and 17 in the previous rejection under 35 USC 103(a).

15. Frisch as modified by Kimchy shows, with respect to claim 7, said sensor being able to pick up a signal representing a physiological characteristic (column 3, lines 62-65); with respect to claim 18, the system according to claim 9, characterized in that the transmitting element comprises a sensor which is able to pick up a signal representing a physiological characteristic (column 3, lines 62-65).

16. Frisch as modified by Kimchy fails to show, with respect to claim 7, the method according to claim 1, characterized in that the amplitude of the transmission frequency of the transmission means is modulated as a function of the amplitude of a signal picked up by a sensor included in the transmitting element; with respect to claim 18, the system according to claim 9, the amplitude of the frequency transmitted by the transmission

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means being able to be modulated as a function of the amplitude of the signal picked up by said sensor.

17. Hogrefe teaches, with respect to claim 7, the method according to claim 1, characterized in that the amplitude of the transmission frequency of the transmission means is modulated as a function of the amplitude of a signal picked up by a sensor (s1 and s2 in Figure 1) included in the transmitting element, said sensor being able to pick up a signal representing a physiological characteristic (abstract); with respect to claim 18, the system according to claim 9, characterized in that the transmitting element comprises a sensor (s1 and s2 in Figure 1) which is able to pick up a signal representing a physiological characteristic, the amplitude of the frequency transmitted by the transmission means being able to be modulated as a function of the amplitude of the signal picked up by said sensor (abstract).

18. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have used the telemetry method taught by Hogrefe, in the device of Frisch, with the motivation that some form of transmission must take place between the capsule and the belt, and this telemetry method would provide a suitable means for transmitting a signal picked up by a sensor detecting a physiological characteristic, from within a capsule in a person's body.

19. Claims 8 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frisch et al. (US 6,904,308, filed 5/20/02) in view of Kimchy et al. (US 2004/0015075, filed 6/11/01) and further in view of Iddan et al. (WO 00/22975, filed 10/21/99).

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20. Frisch as modified by Kimchy shows the claimed invention substantially, as applied to claims 1-5, 9-10, 14, 16, and 17 in the previous rejection under 35 USC 103(a).

21. Frisch as modified by Kimchy fails to show, with respect to claim 8, the method according to claim 1, characterized in that said subject ingests several transmitting elements over a period of time, each transmitting element having a characteristic frequency; with respect to claim 19, the system according to claim 9, characterized in that it comprises several transmitting elements intended to be ingested by said subject over a period of time.

22. Iddan teaches, with respect to claim 8, the method according to claim 1, characterized in that said subject ingests several transmitting elements over a period of time, each transmitting element having a characteristic frequency (page 5, lines 10-15); with respect to claim 19, the system according to claim 9, characterized in that it comprises several transmitting elements intended to be ingested by said subject over a period of time (page 5, lines 10-15).

23. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have had several transmitting elements ingested by the subject over a period of time in the device of Frisch, as taught by Iddan, with the motivation that a doctor may want to take multiple readings of a patient's physiological characteristics over a period of time to determine the proper treatment, and so multiple passes of the capsule would be necessary.

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24. Claims 6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frisch et al. (US 6,904,308, filed 5/20/02) in view of Kimchy et al. (US 2004/0015075, filed 6/11/01) and further in view of Iddan et al. (EP 0667115, filed 1/17/95).

25. Frisch as modified by Kimchy shows the claimed invention substantially, as applied to claims 1-5, 9-10, 14, 16, and 17 in the previous rejection under 35 USC 103(a).

26. Frisch as modified by Kimchy shows, with respect to claim 6, the corresponding phase-shift measurements at each given time are stored in the memory means (data storage unit 22, column 3, lines 41-42).

27. Frisch as modified by Kimchy fails to show, with respect to claim 6, the method according to claim 1, characterized in that the power supply of the transmitting element is triggered at given times; with respect to claim 11, the system according to claim 9, characterized by a high transmission frequency.

28. Iddan teaches, with respect to claim 6, the method according to claim 1, characterized in that the power supply of the transmitting element is triggered at given times (capsule can be designed to only capture images when muscles are squeezing, saving battery power; with respect to claim 11, the system according to claim 9, characterized by a high transmission frequency (1 GHz is a high frequency, column 4, line 35).

29. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have designed the device of Frisch so that the transmitting element only transmits at certain times, as taught by Iddan, with the motivation that this

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would save battery power. And also to use a high transmission frequency, as taught by Iddan, in the device of Frisch, with the motivation that a high frequency would be suitable for transmission from a capsule inside the body to an external receiver.

Conclusion

30. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan G. Cwern whose telephone number is 571-270-1560. The examiner can normally be reached on Monday through Friday 9:30AM - 6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JC
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